What I claim is:

1. A gear change device comprising a select actuator for operating a shift lever in a direction of selection, and a shift actuator for operating said shift lever in a direction of shift, wherein:

said select actuator comprises a casing, a shift lever support member that is disposed in said casing so as to slide in an axial direction and supports said shift lever, a magnetic moving means disposed on the outer periphery of said shift lever support member, a cylindrical fixed yoke surrounding said magnetic moving means, and a coil disposed on the inside of said fixed yoke.

2. A gear change device according to claim 1, wherein said shift lever support member comprises a cylindrical shift sleeve which is allowed to slide in the axial direction and disposed on a control shaft that is rotatably disposed in said casing and is caused to turn in the direction of shift by said shift actuator.

3. A gear change device according to claim 1, wherein said shift lever support member comprises a control shaft which is disposed rotatably and slidably in the axial direction in said casing and is caused to turn in the direction of shift by said shift actuator.

4. A gear change device according to claim 1, wherein:

said coil is constituted by a pair of coils disposed neighboring in the axial direction; and

said magnetic moving means is constituted by an annular permanent magnet mounted on the outer peripheral surface of said shift lever support member and having magnetic poles in both end surfaces thereof in the axial direction, and moving yokes arranged respectively on the outer sides of said

permanent magnet in the axial direction thereof.

5. A gear change device according to claim 1, wherein:

said magnetic moving means comprises a moving yoke mounted on the outer peripheral surface of said shift lever support member and an annular permanent magnet mounted on the outer peripheral surface of said moving yoke and having magnetic poles on the outer peripheral surface and on the inner peripheral surface thereof; said moving yoke having a cylindrical portion on which said permanent magnet is mounted and annular flanges provided at both ends of said cylindrical portion, and the outer peripheral surfaces of said flanges being located close to the inner peripheral surface of said fixed yoke.

6. A gear change device according to claim 1, wherein:

said magnetic moving means comprises an intermediate yoke mounted on the outer peripheral surface of said shift lever support member, a pair of annular permanent magnets disposed respectively on both sides of said intermediate yoke to hold it therebetween and having magnetic poles in both end surfaces thereof in the axial direction, and moving yokes disposed respectively on the outer sides of said pair of permanent magnets in the axial direction thereof; said moving yokes having annular flanges located close to the inner peripheral surface of said fixed yoke.

7. A gear change device according to claim 6, wherein said pair of permanent magnets has the same polarity in the end surfaces opposed to each other.

8. A gear change device according to claim 1, wherein said select actuator has a select position-limiting means for limiting the operation position of said shift lever support

member according to a thrust produced on said shift lever support member in proportion to the amount of electric power supplied to said coil.